

Three Quarters of A Century After Hiroshima and Nagasaki The Hibakusha – Brave Survivors Working for a Nuclear-Free World

Since those ill-fated days in August 1945, we, the Hibakusha (survivors of the atomic bombing), have been working to achieve a world without nuclear weapons and a world without war. Striving toward this goal has made our lives meaningful as we endure the physical and psychological effects of the bombing.

Through photographs, testimonials, poetry and art, this exhibit shares our personal stories and first-hand experiences of the bombing and our 70-plus year efforts, aided by the United Nations, to achieve a world without nuclear weapons.

We look forward to an era that offers a comprehensive nuclear weapon ban. We wish to encourage this international movement by seizing every opportunity to promote the belief that nuclear weapons really can, one day, be eliminated from all nations.

We strongly hope that visitors share our desire that there should never be anyone else who will suffer the agony we have.

Organizer:

Nihon Hidankyo

(The Japan Confederation of A- and H-Bomb Sufferers Organizations)

1.

Give back my father, give back my mother;

Give grandpa back, grandma back;

Give me my sons and daughters back.

Give me back myself.

Give back the human race.

As long as this life lasts, this life,

Give back peace

That will never end

From the Preface of Atomic Bomb Poetry Collection by Toge Sankichi

Mushroom cloud over Hiroshima. Photograph by US Army

2. Cremation Site, Nagasaki

“I had never before witnessed the obvious military influence on the young until I watched this boy bring his dead brother to a cremation site. Every kid I knew in America would not have been able to cope like this young boy did. He stood rigid, no emotion seen except for the terrible unshed tears. I wanted to go to him, to comfort him—but I was afraid. If I did his strength would have crumpled, leaving him defenseless in agony and grief. I did nothing.” —Joseph R. O'Donnell

Quoted from a photograph collection “Japan 1945” (Vanderbilt University Press February, 2005) © Joseph R. O'Donnell

Joseph O'Donnell was a photographer for the U.S. Marines. He took this picture in September 1945. He returned to Japan in the 1980s to look for this boy, but could not find him.

Life and Death at Ground Zero

3. Hiroshima

At 8:15 a.m. on the morning of August 6, 1945, an atomic bomb was dropped on Hiroshima. The exploding bomb sent out nuclear radiation (neutrons and gamma rays), shock waves from the blast, and thermal radiation (heat waves). It killed and destroyed almost everything within 2 kilometers (1.3 miles) from the blast center. At the end of that day, according to the Japan-US Joint Research Group, 45,000 people were dead. And people kept dying, both from their wounds and from radiation poisoning. By the end of the year, more than 140,000 people had died, and tens of thousands more continued to suffer from the effects of the bomb.

Before the bombing: 1938, Photograph by Wakaji Matsumoto, Courtesy of Hitoshi
OOUCHI

After the bombing: October 5, 1945, Photograph by Shigeo Hayashi, Courtesy of
Hiroshima Peace Memorial Museum.

4. Nagasaki

Three days later—at 11:02 a.m.—a second atomic bomb was dropped on the city of Nagasaki. This was a plutonium bomb, even more powerful than the bomb dropped on Hiroshima. However, because the blast center was 3 kilometers (2 miles) from the center of Nagasaki, fewer people were killed. The precise number of people who were killed or wounded and later died from the effects of the bomb remains unknown, but the death toll

at Nagasaki reached at least 70,000 by the end of 1945.

Before the bombing: Photograph from documents returned by the United States,
Courtesy of Nagasaki Atomic Bomb Museum

After the bombing: Photograph from documents returned by the United States,
Courtesy of Nagasaki Atomic Bomb Museum

5. The Scene at Miyuki Bridge

I returned to Miyuki Bridge

But could not snap the shutter of my camera

Faint cries asking for help and water

An infant cling to the breast of his mother who was too weak to move

A mother holding her baby in her arms crying madly

“Open your eyes! Open your eyes!”

It was nothing but hell

The scene I saw through the finder blurred

As the tears streamed down my face

—Yoshito Matsushige

Quoted from a photograph collection *The Viewfinder Clouded with Tears* (Gyosei Corporation, 2003)

West end of Miyuki Bridge, Hiroshima. 2.2 kilometers from Ground Zero (August 6).
Photograph by Yoshito Matsushige. Collection of the Chugoku Shimibun.

6. Nagasaki—On That Day

The misery caused by the atomic bomb was seen in the severe burns on people’s faces and rotting injuries on their bodies. People were strewn on the ground and floated on rivers as they fled by the streets, waterways and hills.

— Akizuki Shinichiro (Medical Doctor, Nagasaki survivor)

(Left) 1.2 kilometers (0.75 miles) south-southeast of ground zero. A mother and child leave the first-aid station after receiving rations of rice balls. They appear to not have the energy to eat. Morning of August 10, 1945 near Ibinokuchi-machi, Nagasaki City. Photograph by Yosuke Yamahata. Courtesy of Shogo Yamahata.

(Middle) A father, carrying his baby who is too weak to cry, searches for a doctor.

1.5 kilometers (1 mile) south of ground zero. Morning of August 10, 1945 near Ibinokuch-machi, Nagasaki City. Photograph by Yosuke Yamahata. Courtesy of Shogo Yamahata.

(Right) The day after the atomic bombing of Nagasaki, at Urakami Railway Station, 1 kilometer (0.6 miles) from ground zero, a mother and a child lay dead on the platform. Photographed around noon on August 10, 1945, at Iwakawa-machi, Nagasaki City, Photograph by Yosuke Yamahata. Courtesy of Shogo Yamahata.

7. How Nuclear Bombs Kill and Destroy

At the moment of explosion, the atomic bomb released its destructive power in three forms: radiation (15%), heat rays (35%) and blast pressure (50%).

The radiation was composed of neutrons and gamma rays, which amounted to 604 rad and 3,500 rad respectively at 500 meters (0.3 miles) from ground zero, where no one survived. Low level radiation from fallout and secondary sources would cause delayed effects in later days.

Heat rays measured at 3.5 kilometers (2.2 miles) from ground zero were 1.8 kcal/cm². The exposed body parts of people outside buildings suffered 1st-4th degree burns. The heat caused buildings to burst into flames. Fire quickly spread and engulfed the entire city.

The blast pressure was 28 meters (0.01 miles)/second at the point 3.2 kilometers (2 miles) from ground zero with an estimated speed of 280 meters (0.2 miles)/second at the blast center. Houses within 5-kilometer (3-mile) radius were destroyed. Damage from shock waves was felt as far as 60 kilometers (37 miles) away.

Blast Wind

Analysis of all data in 1976 revealed the estimated height to be 503±10m (Kerr & Solomon). Kerr GD, Solomon DL: *The epicenter of the Nagasaki weapon—A reanalysis of available data with recommended values.* ORNL-TM-5139 (1976)

(Top) Epilation caused by radiation

(middle) Burn victim. This photograph was taken after the transplantation of skin grafts.

(Bottom) This wooden house collapsed as a result of the blast, near Danbara, 3 kilometers (about 1.9 miles) from ground zero.

8. Concentric Circle of Death

The heat from the atomic bomb caused severe burns that were often fatal. Shock waves from the explosion threw people to the ground or against walls. Wooden buildings within

1.5 kilometers (1 mile) from ground zero were flattened. People inside those buildings were often crushed to death or trapped under the debris and burned alive by the fires that followed.

Radiation from the atomic bomb caused acute sickness among those exposed to it directly. Radioactive fallout affected many who later returned to the two cities to search for their families or provide medical treatment for the survivors.

Statistics of the Deaths in Hiroshima

Distance from Ground Zero	Within 0.5 km	0.5~1.0km	1.0~1.5km	1.5~2.0km	2.0~3.0km
Mortality rate	96.5%	83.0%	51.6%	21.9%	7.6%

Population of Hiroshima at the time of the A-bombing: 310,000~320,000

Death toll by December 31, 1945: Approximately 140,000 ± 10,000

Statistics of the Deaths in Nagasaki

Distance from Ground Zero	Within 1.0 km	1.0~1.5km	1.5~2.0km	2.0~3.0km
Mortality rate	88.4%	51.5%	28.4%	8.5%

Population of Nagasaki at the time of the A-bombing: 270,000~280,000

Death toll by December 31, 1945: Approximately 70,000 ± 10,000

(Data on the death toll: From *Nuclear Radiation and A-Bomb Sickness* by Shono Naomi and Ijima Soichi, N.H.K. Publishing)

9. What If It Happened Here?

To make the effects of nuclear bombs clearer, let's imagine what would happen if a one-megaton warhead exploded above Times Square in New York City. The blast from the explosion would destroy even the strongest buildings that were less than 2.5 kilometers (1.5 miles) from Times Square. Nearly everyone within this area would be killed. Within an area 15–20 kilometers (9–12 miles) from Times Square—most of New York City and parts of New Jersey—most buildings would be damaged and most people surviving the blast would be wounded. Radiation poisoning would affect the majority of the survivors as well as their unborn children for many years.

10. Treatment Amid Chaos

Peeled skin was dangling like seaweed from their arms

Wet, red flesh exposed

People were staggering with vacant eyes

Extending their arms forward

Like ghosts

Suddenly they stumbled and fell

Never to get up again

—From “The A-Bomb and Humanity,” Hidankyo, 1997

Top left: A doctor and nurse treating injured people.

The doctor is also injured. At Hiroshima Red Cross Hospital, August 10, 1945. Photograph by Hajime Miyatake, Collection of Asahi Shimbun.

Above: A girl transported to Omura Naval Hospital with peeled and shredded skin dangling all over her body. Around August 10 or 11, Nagasaki. Photograph by Masao Shiotsuki. Courtesy of Nagasaki Atomic Bomb Museum.

Bottom left: Patients who could not be accommodated were laid in the shade outside, waiting for treatment. At Hiroshima Red Cross Hospital, August 10, 1945. Photograph by Hajime Miyatake, Collection of Asahi Shimbun.

11. Loved Ones

I looked for my 14-year-old first-born son for 5 days, but could not find him. Hearing that dead bodies were being shipped out at the port, I rushed there and finally found his body. I managed to carry him to a junior high school, where I conducted cremation. It broke my heart to know that he was laid on a cold concrete floor and died without anyone giving him even a drop of water. How cruel it is that a mother had to cremate her own child to whom she had given birth.

—Atomic bomb survivor in Hiroshima

(Top) Numerous victims of the atomic bomb were cremated near the Fukuya department store, a busy shopping area 800 meters from ground zero in Hiroshima. Bodies of soldiers and citizens continued to be brought there on stretchers to be cremated. August 12, 1945. Photograph by Hajime Miyatake. Collection of Asahi Shimbun.

(Bottom) In July 1952, seven years after the bombing, a great number of atomic bomb

victim remains were uncovered across Hiroshima city. This photograph was taken in Saka-cho, where the remains of 60 people were found exposed to the elements and another 156 buried underground. This site was home to a first-aid station where many atomic bombs victims died. Excavations continue to this day. Photograph courtesy of Chugoku Shimbun.

12. Hearing Mother's Voice Behind, I Fled

My house collapsed instantly —broken roof tiles, shingles and mud walls, I found Mother lying on her back, trapped under the debris.

Her face was covered with blood. She could not even turn her face sideways I heard her saying, "Take the thing pressing on my shoulder away." But I could not budge it.

The fire came closer I ran away, bidding her farewell.

Behind me she was reciting the Buddhist Heart Sutra as I tore myself away from the scene
—Iwasa Mikiso (Hiroshima survivor)

(Left) Photograph by Hajime Miyatake. Collection of Asahi Shimbun

(Right) At noon in Nagasaki, the day after the bombing. Photograph by Yosuke Yamahata.

Courtesy of Shogo Yamahata

Those Who Lived and Those Who Died

13. Acute Symptoms

Hundreds of thousands of people in Hiroshima and Nagasaki survived the bombing but were poisoned by radiation. Their symptoms included bleeding from the gums, nose, or corners of the eyes; vomiting; hair loss; fatigue; and internal bleeding.

Top left: 9-year-old boy suffering hair loss, exposed 0.6 miles (1 kilometer) from the hypocenter in Hiroshima, October 1945. An 11-year-old girl who was inside a wooden house in Funairi-machi in Hiroshima, about 2 kilometers (1.2 miles) southwest from ground zero, at the time of the bombing.

Top right: 21-year-old soldier was inside a wooden building of Army Unit 104, 1 kilometer (0.6 miles) northeast from ground zero, when the bombing occurred. Around the end of August, his gums started bleeding. Subcutaneous bleeding (dark spots) appeared on his face and upper body and turned into an extravasation of blood. On September 3rd, two hours after this photograph was taken, he died.

Bottom: Bleeding from the gums.

14. Chromosomal Abnormalities and Destruction of Genes

Neutrons and gamma rays released by the atomic bombs directly destroyed body cells of the Hibakusha (atomic-bomb victims). Radiation also affected hematopoietic function, which caused acute radiation sickness and death to many victims. The cause of after-effects of the atomic bomb radiation can be found in the destruction of DNA which forms chromosomes. When affected by bomb radiation, cell molecules would cause ionization and generate oxygen, which then would destroy gene information of the DNA. Many are restored, but unrestored stem cells, after an incubation period can start to proliferate abnormally and turn into cancer cells.

(Left) **A Stem cell**

Hypothesis: Organ stem cell theory, by Masao Tomonaga, M.D., PhD., Oslo, Norway, March 2013.

(Top) **Frequency of abnormal cells**

This figure shows the frequency of radiation-induced chromosomal aberrations in hematopoietic stem cells in the peripheral blood (GM-CFC, BFU-E) among atomic bomb survivors exposed to a radiation dose of 100 cGy (1 centigray + 1 rad) or more. The proportion of cells with abnormal chromosomes among the stem cells investigated is shown by dose. There is a positive correlation between the proportion and dose. Amenomori et al, *Exp. Hematol.* 16, 19088.

(bottom) This figure shows the chromosomal abnormality in the hematopoietic stem cells in the peripheral blood (A) and abnormality in the peripheral T-lymphocyte (B) observed in a high-dose survivor, indicating that the radiation-induced damage involves the level of totipotential hematopoietic stem cells. Amenomori et al, *Exp. Hematol.* 16, 19088.

15. Illnesses after the Atomic Bombing

Among the surviving hibakusha, rates of leukemia increased drastically after 5 years. After reaching a peak in the 10th year, these cases diminished while other cancers started to appear and increase: thyroid cancer (10 years), breast and lung cancer (20 years), stomach and colon cancers and myeloma (30 years). The incidence of these cancers was higher the younger the hibakusha were at the time of the bombing.

Myelodysplastic syndrome started to appear among elderly hibakusha 50 years after the bombing and is increasing year by year, a phenomenon described as a second epidemic of leukemia.

(Top) **Years elapsed since the bombings and increase in deaths from leukemia and cancer**

The graph shows the rate of deaths from leukemia and various solid cancers and the onset of myelodysplastic syndrome in relation to the number of years since the atomic bombing. Data from Masao Tomonaga, M.D., PhD., March 2013, Oslo, Norway.

(Bottom) Micrographs from *The Medical Effects of the Nagasaki Atomic Bombing* by Atomic Bomb Disease Institute, Nagasaki University.

(from left) Normal bone marrow, granulocytes and erythroblasts.

Acute lymphoid leukemia (ALL); marked proliferation of small lymphoblasts is evident.

Acute myeloid leukemia (AML); marked proliferation of large myeloblasts is evident.

Chronic myeloid leukemia (CML); marked proliferation of granulocytes at various stages of maturation is evident.

16. A-bomb Microcephaly

Yuriko Hatanaka was born in 1946 suffering microcephaly (abnormally small skull) caused by radiation from the atomic bomb blast which her mother experienced when Yuriko was in the womb. Her condition resulted in mental and physical disabilities.

In Yuriko's childhood, her mother choked up with tears, thinking of Yuriko's future. In her adult years, Yuriko participated with her father, communicating the realities that victims of the atomic bomb must live with.

Above: Yuriko gazing at a newspaper, 1974. Photograph by Kikujiro Fukushima. Courtesy of Kyodo News.

Right: Yuriko with her parents, in front of her family's barber shop 1974. Photographs by Kikujiro Fukushima. Courtesy of Kyodo News.

17. Sadako Sasaki (Hiroshima, 1943-1955)

Sadako was approximately 1.6 kilometers (1 mile) from ground zero when the bomb exploded, but miraculously was not injured.

She was a happy child who giggled mischievously and was a popular girl at school. She excelled in athletics, often beating the boys in relay races.

A decade after the bomb, just before graduating elementary school, Sadako was diagnosed with leukemia and hospitalized. Believing that she would recover if she could fold one thousand paper cranes, she devoted herself to creating cranes until she died six months later. She was only twelve.

Sadako's classmates started a donation campaign in an effort to give Sadako's life and

death some meaning. With the cooperation of children all over Japan, they built a statue, the “Children’s Peace Monument” in Hiroshima Peace Memorial Park. Now visitors from Japan and other countries dedicate paper cranes which they fold while praying for peace.

(Top left) Sadako, after hospitalization, in front of her hospital. Photograph courtesy of Masahiro Sasaki.

(Bottom left) Paper cranes, folded as prayers for peace. Peace Memorial Park, Hiroshima, Japan.

(Right) Children’s Peace Monument. Photograph courtesy of Hiroshima Peace Memorial Museum

18. The Trauma

That day, we managed to get home through the fire. Our house had burned down; we could not find our four children. We only found several bones, which crumbled into powder in our hands. My wife fell into a state of shock. Three months later, our niece brought an Ichimatsu Doll which our daughter had given her, saying we should keep it in place of our daughter.

My wife was filled with joy at receiving it.

Since then, we have collected the Ichimatsu Dolls, one each year, to console the souls of our children. —Motae and Yoshio Kuramitsu

(Left) Mr. & Mrs. Kuramitsu, holding an Ichimatsu doll. Photograph by Yoichi Tanuma.

(Right) Ichimatsu dolls collected over the years by Mr. and Mrs. Kuramitsu. Photograph by Yoichi Tanuma.

19. Secrecy and Censorship

Censorship was widely imposed by the American authorities during the occupation and affected information about the atomic bombing and its aftereffects. Because nuclear weapons had never been used before, no one knew exactly what their long-term effects would be. Reassuring statements from American authorities in 1945 turned out to be misleading, as they were based on insufficient information. Elevated risks of cancer, for example, were not properly understood.

Even when information did exist, some of it was withheld. Many aspects of the atomic bomb were military secrets, and Japanese news media and other publications were subject to censorship.

The Atomic Bomb Casualty Commission was established by President Truman to study the health effects of the two atomic bombs, but its first general report was not published until 1947, and detailed studies did not appear until years later.

(Left) Guidelines restricting public statements about atomic weapons were distributed internally among high-level Navy personnel. From the National Archives.

(Middle) News stories filed by Japanese journalists were previewed and rubber-stamped by U.S. military censors. From *Establishment and Conduct of Field Press Censorship in Combat Areas*, published by the U.S. Army.

(Right) Front cover and two pages from the Japanese tanka poetry collection titled *Sange* by Ms. Shinoe Shoda, secretly published in 1947 to evade occupation censorship. The poems are based on her personal experience at home in Hiroshima, 1.7 kilometers (1 mile) from where the bomb fell. She was 35 years old. “The censorship was so strict,” she recalls, “and I was told that any violation would almost certainly lead to the death penalty. But with a strong determination, even if it meant facing the death penalty, I published this book underground, compelled by a force inside myself, though my family tried to stop me.”—Quoted from *Sange*.

20. Sumiteru Taniguchi (Nagasaki, 1929–2017)

On August 9, 1945, Mr. Sumiteru Taniguchi was 2 kilometers (1.3 miles) away from the blast center in Nagasaki. He was 16 years old. Thermal radiation burned his back so badly that he had to lie on his stomach for a year and nine months while being treated. Many times, because of the pain, he cried out “Kill me!” When he was finally able to stand up, the flesh of his front torso had become putrefied and deep chasms had formed between his ribs.

I have survived miraculously, but for me, to “live” was to “endure the agony.” Bearing the cursed scars of the atomic bomb all over our bodies, we the hibakusha continue to live in pain. Nuclear weapons are weapons of extinction that cannot coexist with humans. They should never, ever be used for any reason whatsoever. I cannot die in peace until I witness the last nuclear warhead eliminated from this world.

(Left) Mr. Taniguchi speaks before government delegates at the NGO Session of the 2010 NPT Review Conference, May 7, 2010. Photograph courtesy of Nihon Hidankyo.

(Top right) Sit-in to protest against nuclear testing, Nagasaki, 1984. Photograph by Haruo Kurosaki.

(bottom right) Joining the peace rally in Union Square, New York, April 26, 2015. Photograph by Erico Platt.

21. Senji Yamaguchi (Nagasaki, 1930–2013)

Mr. Senji Yamaguchi was 14 years old when Nagasaki was bombed. Only 1.2 kilometers (0.7 miles) from the blast center, his upper body was severely burned by

thermal radiation (heat rays). He lay unconscious for 40 days and barely escaped death. Eventually he seemed to recover;

his acute radiation symptoms went away. But then he began suffering from diseases such as skin cancer, kidney disease, emphysema, and asthma. He also had trouble finding work because of his extensive scarring on his body.

Despite his health problems, Mr. Yamaguchi remained an active campaigner for total nuclear disarmament. He represented the NGO delegations from Japan at the United Nations Second Special Session on Disarmament in 1982.

In his speech he appealed for “No More Hibakusha! No More War!”

(Top left) From the film “The Lost Generation.” Copyright Association to Establish the Japan Peace Museum.

(Bottom left) Mr. Yamaguchi using a razor. Photograph by Sakae Murasato.

(Right) Mr. Yamaguchi hands over the flyer of the hibakusha appeal in downtown Tokyo, May 1990. Photograph by Ittetsu Morishita.

22. Yoshiaki Maeza (Hiroshima, 1921–2009)

Yoshiaki Maeza was twenty-four when the bomb dropped on Hiroshima. In October of the same year he moved to Matsumoto, Nagano Prefecture, and took part in the foundation of the Society of the Sufferers of Nuclear Bombs of Nagano Prefecture, becoming its vice president and later its president. In 2009, he died at the age of 88.

A few lines from a poem that he wrote:

I will fight forever

I will never stop fighting

hoping my sons and their children

have a beautiful future

and happy lives

His mottos:

Fighting makes a man

Peace cannot be realized by praying

His words in his last days:

I have nothing to fear. I will stand in my coffin, because I cannot lie down. I will shout until the day I die. If I lose the use of my hands and feet, I will still have my voice. I will find something new to say or do every day. It shall not stop. The things I know don't allow me to die. I want to be the last defense against wars, reaching out to young people.

(left) Mr. Maeza is examined in a hospital after surgery for intestinal cancer, around 1990. Photograph courtesy of Akishi Maeza.

(top right) Mr. Maeza describes his experience to citizens in Nagano City, October 11, 2009. Photograph courtesy of Akishi Maeza.

(bottom right) Mr. Maeza in front of his restaurant “Pika Don,” October 2009.

Photograph courtesy of Akishi Maeza.

23. Chieko Watanabe (Nagasaki, 1928–1993)

In the summer 1945, Chieko Watanabe (age 16) was mobilized to work at Mitsubishi Electric as a member of Student Patriotic Corps. She was trapped under a fallen iron beam of the factory, which paralyzed the lower part of her body. Whenever she gave in to despair, it was her mother, also a hibakusha, who always encouraged and inspired her to live on.

We should be the last to suffer from atomic bombs. I ask you, people of the world, please make joint efforts to abolish all atomic and hydrogen bombs. And with your help, we hope to achieve a world without these weapons as soon as possible, when we can say, “We are glad to have survived till today.”

From the appeal by Ms. Watanabe Chieko, at the Second World Conference against Atomic and Hydrogen Bombs, 1956.

(Left) Chieko joins in the World Conference against Atomic and Hydrogen Bombs with her friend’s help in Nagasaki, August 1975. Photograph by Kikujiro Fukushima. Courtesy of Kyodo News.

(Right) Chieko distributes leaflets in a downtown area: “Let us make Nagasaki the last victim city of atomic bombing.” Photograph by Haruo Kurosaki, 1984.

24. Shigeko Sasamori (Hiroshima, 1932–)

As a first year student in a women’s high school, she was mobilized to clean a building that was empty after evacuation. She was about 1.5 kilometers (0.9 miles) away from the blast center when the bomb fell and experienced serious burns on her face and upper half of her body.

When she was nineteen, she participated in a gathering of young female atomic victims at a church.

After undergoing several operations in Tokyo, she met Norman Cousins, a journalist who started a campaign named “moral adoption” to collect money for children who had been orphaned by the bomb. She went to the United States with other members of the group to undergo an operation. Later, she was adopted as a daughter by Mr. Cousins, became a nurse, and worked in a hospital. She continued to describe her experiences after her retirement.

(Top) Ms. Shigeko Niimoto (Ms. Sasamori's maiden name) arrived in New York accompanied by the Rev. Kiyoshi Tanimoto, May 9, 1955. Photograph from Bettmann Collection/ Getty images.

(Bottom left) Shigeko speaks her experience at a high school in New York City April 30, 2015. Photograph by Kyodo News.

(Bottom right) Shigeko in front of the painting of Mr. & Mrs. Cousins, her adoptive parents, in her living room in Marina del Ray, California. Photograph by Keiko Fukuda.

25. Sunao Tsuboi (Hiroshima, 1925–2021)

On the morning of August 6, 1945, Sunao Tsuboi was on his way to the university in Hiroshima. At 8:15, when the bomb hit, he was about 1.2 kilometers (0.8 miles) from the blast center.

I was blown at least ten meters (33 feet) by the blast. My head, both hands, back, waist, both legs—almost all parts of my body—were burned. After a week, I lost consciousness. It took me over a month to regain consciousness. For three months after the day I finally came to, the doctors told me on a daily basis that I would surely die.

Since 1945, Mr. Tsuboi had been hospitalized many times: for chronic aplastic anemia, for cardiac angina, and for cancer in his large intestines. All of these diseases were caused by the aftereffects of radiation. Despite his poor health, Mr. Tsuboi gave testimony about the horror of nuclear weapons and appeals for their abolition.

(Top) Survivors suffering from burns and other injuries. Hiroshima, around 11a.m. August 6, 1945. Photograph by Yoshito Matsushige. Collection of the Chugoku Shimbun.

(Bottom left) Mr. Tsuboi as a teacher of a junior high school. Photograph courtesy of Sunao Tsuboi

(Bottom right) Mr. Tsuboi at the Anti Nuclear Weapon Exhibition held at the United Nations during the 2010 NPT Review Conference.

Nuclear Consequences

26. Damage from Uranium Mining and Nuclear Waste

All nuclear weapons and most nuclear reactors ultimately require the mining of uranium ore. In the past, when mining was poorly regulated, hazardous waste from mines in the United States, Australia, and the former Soviet Union was not disposed of in a

responsible fashion. Since then, huge sums have been spent on cleanup operations and underground storage.

Some local indigenous peoples have resented mining operations in the American West and remain concerned about consequences to their health.

(Top) Church Rock mine, in New Mexico, yielded millions of tons of uranium ore until it closed in 1982. Workers are shown drilling holes in which explosives were placed to break up the rock. Photograph by Hiromitsu Toyosaki.

(Bottom left) The Hanford Nuclear Site lies in a deserted area of the Columbia River basin in Washington State. At one time it was the largest facility for plutonium production in the world, but these activities ceased in 1987. Photograph by Kazuma Momoi.

(Bottom right) This Navajo woman lost her husband, a uranium mine worker. She is pictured in Red Rock, Arizona. Photograph by Hiromitsu Toyosaki.

27. Damage from Nuclear Testing

More than 2,000 nuclear bomb tests were performed by the United States, the former Soviet Union, the United Kingdom, France, China, and other nations until the Comprehensive Test Ban Treaty was adopted in 1996. India, Pakistan, and North Korea did not sign the treaty and have performed ten known tests since 1996, most recently in 2017.

All tests since 1962 have been performed underground. Before that date, the radiation and fallout from atmospheric tests were hazardous to all living things and caused environmental devastation.

(Top left) According to the November/December 1998 issue of *Bulletin of Atomic Scientists*, 935 nuclear tests were performed in Nevada, 828 of which were underground as stated by the US Government. Sink holes caused by underground tests are visible in this photograph. Photograph courtesy of the U. S. Department of Energy.

(Bottom left) The vacant lot of the Semipalatinsk Nuclear Test Site in the former Soviet Union. Photograph by Takashi Morizumi.

(Top right) During the 1950s, people who lived where prevailing winds from atmospheric tests exposed them to fallout were sometimes known as “downwinders.” In St. George, Utah, many downwinders were exposed to fallout. This woman lost her son to leukemia in 1959 and her husband to cancer in 1983. Two of her remaining four children are suffering from brain tumors. Photograph by Hiromitsu Toyosaki.

(Bottom right) Before atmospheric testing ended in 1962, it caused injuries to

indigenous people in the Pacific. This boy was exposed to a test on Bikini Island. Photograph provided by U.S. military forces.

28. Chernobyl Nuclear Power Plant Accident

A steam explosion in the Chernobyl nuclear facility blew off the upper part and sections of the side walls of the Number 4 reactor building. Following the disaster, a “sarcophagus” of steel and concrete was constructed over the reactor to prevent dispersal of radioactive waste. Thirty years later, the “New Safe Confinement Building” was built around the Number 4 reactor.

(Top Left) A boy with cancer. Photograph by Vladimir Shuba/TASS.

(Bottom left) A local resident cries when leaving her native village contaminated with radiation after the accident. Photograph by Vladimir Shuba/TASS.

(Top right) The ill-fated Number 4 reactor building of the Chernobyl nuclear power facility in the Ukraine. Photographed in 2005 by Petr Pavlicek (IAEA). Licensed under the Creative Commons.

(Bottom right) The New Safe Confinement building is visible behind the sculpture in this photograph taken in 2018. Licensed under the Creative Commons.

29. Fukushima Nuclear Power Plant Accident

The tsunami that struck Japan on March 11, 2011 precipitated an accident that was more severe, in some ways than the accidents at Three Mile Island and Chernobyl. Hydrogen explosions at three of the four buildings in the Fukushima nuclear power facility resulted in wide dispersal of radioactive debris.

Ten years later, 35,000 people are still living as evacuees as reconstruction of housing in the area continues.

Even now, cooling the melted-down nuclear fuels is generating 140 tons of contaminated water a day. This contaminated water is treated in a complex filtration process, but the radioactive material tritium remains in the water. The number of large tanks for storing this “treated water” is increasing on the site.

(Left) With people on board, a bus passes through the cherry blossom in the Difficult-To-Return zone of Tomioka town, Fukushima. Photograph courtesy by Mainichi Shimbun, April 6, 2019.

(Top) The Number 3 reactor building of the Fukushima Daiichi nuclear power facility was damaged by a hydrogen explosion. Photograph courtesy Mainichi Shimbun, November 12, 2011.

(Bottom right) Police officers search for missing victims in Fukushima evacuation area. Photograph courtesy of Mainichi Shimbun.

IV. The United Nations and the Hibakusha

30. Foundation of the UN

The United States atomic-bombed Hiroshima on August 6 and Nagasaki on August 9, 1945. This was the first time nuclear weapons had been used in warfare in human history. On October 24th of the same year, the United Nations was founded, and a resolution to request the foundation of a nuclear commission was adopted on January 24, 1946, during the first UN General Assembly. This was the first resolution at the UN, approved by the United States among other nations. It seemed that a world without nuclear weapons could be realized, but the United States and the former Soviet Union began a nuclear arms race based on a policy of mutual deterrence, and the number of nations with nuclear weapons began to increase.

(Left) The first session of the United Nations General Assembly opened on January 10, 1946 at the Methodist Central Hall in London, United Kingdom.

(Right) The Constitution of Japan was promulgated in November 1946. Article 9 outlaws war as a means for Japan to settle international disputes. Translated into Spanish, it is presented here in Hiroshima/Nagasaki Square in Telde City, the Canary Islands. Photograph by Chihiro Ito.

31 Seeking the Prohibition and Elimination of Nuclear Weapons

The Stockholm Appeal of 1950 called for “the outlawing of nuclear weapons.” The Einstein-Russell Manifesto followed in 1955. Authored by Albert Einstein and British philosopher Bertrand Russell, it warned of the global risk created by nuclear weapons and appealed for peaceful resolution to international conflicts. These statements catalyzed subsequent movements in pursuit of world peace.

(Left) Signature campaign for Stockholm Appeal, Toyosu, Tokyo, July 1951. Photograph courtesy of Rengo Tsushin.

(Top right) Albert Einstein

(Bottom right) Bertrand Russell reading from the manifesto that he coauthored with Albert Einstein, July 9, 1955. Photograph by Carl Sutton.

32. From Thermonuclear Tests at Bikini Atoll to the Movement to Ban Nuclear

Bombs

In 1954, an atmospheric nuclear test on Bikini Atoll in the Pacific dispersed nuclear fallout that reached the Japanese crew of a tuna-fishing boat, the Fifth Fukuryu Maru. The consequent radiation sickness of crew members was widely reported, including the death of Aikichi Kubohama, the radio officer. This event energized campaigns to ban nuclear weapons, including a petition in Japan that gathered more than 30 million signatures.

(Top) The hydrogen bomb test “Bravo” at Bikini Atoll on March 1, 1954. Photographed from a U.S. Air Force aircraft 80 kilometers (50 miles) from the blast.

(Bottom left) Signature campaign protesting against atomic and hydrogen bombs in Ueno, Tokyo, April 1954. Photograph courtesy of Japan Gensuikyo.

(Middle) The Fifth Fukuryu Maru discarded as derelict in “Yume no Shima,” Tokyo, 1970. Photograph by Ittetsu Morishita.

(Right) Crew members of the Fifth Fukuryu Maru were diagnosed with radiation sickness in April 1, 1954. Photograph courtesy of Mainichi Shimbun.

33. The Formation of Nihon Hidankyo—National Organization of the Hibakusha

We do not want anyone in the world to experience the same suffering as we have.”

This message empowered the formation Nihon Hidankyo in 1956. Its “Message to the world” stated: “. . . we vow to save human beings from crisis through our experience as we heal and save ourselves.” The organization has struggled continuously to fulfill that vow for 64 years.

Foundation of Nihon Hidankyo (Japan Confederation of A- and H-Bomb Sufferers Organizations), Nagasaki, August 10, 1956. Both Photographs by Rengo Tsushin

34. Preventing Proliferation

Nuclear proliferation became a major concern in the 1960s as more nations developed the capability to build bombs. The Non-Proliferation Treaty (NPT) was negotiated by a United Nations committee and opened for signatures in 1968. It became legally binding on participants in 1970.

Under the treaty, countries that built bombs before 1967—the United States, the former Soviet Union (now Russia), the United Kingdom, France, and China—are classified as nuclear-weapon states and may continue to possess them. Other signatory nations pledge never to build nuclear weapons but may benefit from peaceful development of nuclear energy with assistance from nuclear-weapon states.

As of January 2020, 191 states agreed to honor the treaty.

Top: First meeting of the Preparatory Committee for the Review Conference of the Parties

to the NPT, United Nations, Geneva, Switzerland, April 1, 1974. Photograph courtesy of UN Photo.

Bottom: The review and extension meeting, where an indefinite extension of the treaty was agreed to in May 1995. Article VI further committed the signatories to pursuing an end to the nuclear arms race, eliminating nuclear weapons, and ultimately achieving complete international disarmament. Photograph courtesy of UN Photo.

35. International Symposium on the Effects of A-Bombs

In 1977 the United Nations sponsored an international symposium in Tokyo, Hiroshima, and Nagasaki summarizing the effects of the two bombs that were dropped in 1945.

This symposium responded to requests by Japanese anti-nuclear activists who pointed out that definitive data had never been officially presented by either Japan or the United States.

The conference presented results of a survey of Hibakusha which found that by the end of 1945, 140,000 bomb-related deaths had occurred in Hiroshima and 70,000 in Nagasaki, with a margin of error of 10,000 in each city.

In a closing statement during a symposium entitled “Life or Oblivion,” Philip John Noel-Baker said, “Hibakusha of the world Unite! We are the people of a glorious future yet to be.” Thus, the word “hibakusha” entered the international vocabulary.

(top) Arthur Booth making the opening. statement at the symposium Photograph courtesy of Nihon Hidankyo.

(bottom) Philip John Noel-Baker, baronet, winner of the 1959 Nobel Peace Prize, speaking at the symposium. Photograph by Ittetsu Morishita.

36. UN Special Sessions on Disarmament

In response to the continuing arms race, the United Nations General Assembly convened its first special session on disarmament in 1978.

Delegations of peace activists from around the world marched through the streets of New York City during this exceptional event. They included 500 Japanese activists seeking the abolition of nuclear weapons.

Two more special sessions on disarmament were held at the United Nations in 1982 and 1988.

(Top) Demonstrators on 42nd Street in Manhattan during the second special session on disarmament. June 12, 1982. Photograph by Yasuo Otsuji.

(Bottom) “No more hibakusha! No more war!” Mr. Senji Yamaguchi at the second special session on disarmament. Photograph courtesy of UPI/Kyodo.

37. The Hibakusha in Europe

Concerned about the possible deployment of battlefield nuclear weapons in Europe, anti-nuclear activists staged large demonstrations in the United Kingdom, Germany, France, and Netherlands, among others. Many hibakusha were invited to participate.

In August 1982 four members from Japan visited the Vatican and met Pope John Paul II to seek his blessing for efforts to abolish nuclear weapons.

(Left) Meeting Pope John Paul II in Vatican City, August 25, 1982.

(Right) In front of the Liberation Memorial of Buchenwald Concentration Camp in Germany, August 1982.

(Bottom left) Dr. Shuntaro Hida speaking at Municipal Technical College of Montpellier, France, in October 1983.

(Bottom right) Representing the hibakusha, Mr. Satoru Konishi gave a solidarity speech at a 500,000-person rally held in Bonn, Germany in 1985. Photograph courtesy of Nihon Hidankyo.

V. Toward a world without nuclear weapons and wars

38. Number of Nuclear Warheads, Nuclear Test Sites and Nuclear Tests

Despite the end of the Cold War, the world is still threatened by nuclear weapons. The total power of all the world's nuclear weapons is enough to kill living things many times over.

Number of nuclear tests, from “November/December 1998 issue of Bulletin of Atomic Scientists.”

Number of nuclear warheads possessed by each country of January, 2022, estimated by Stockholm International Peace Research Institute (SIPRI).

Background photograph: Operation Redwing Cherokee, in Bikini Atoll, May 20, 1956, from “Atomic Bomb—Uncovered History by Color Photographs” (by Katsuyoshi Hara, KK Bestsellers Publishing)

39. World Court Project

The World Court Project was a citizens' movement seeking a judgment from the International Court of Justice on the legality of the use of nuclear weapons. In 1994 and 1993, respectively, the United Nations General Assembly and the World Health

Organization each adopted a resolution endorsing this effort. More than three million signatures in support of the World Court Project were gathered in Japan and submitted to the Court.

Mayors of Hiroshima and Nagasaki made statements to the Court suggesting that the use of nuclear weapons would be a violation of international law.

The International Court of Justice delivered a ruling on July 8, 1996 stating that “the threat or use of nuclear weapons would generally be contrary to the rules of international law applicable in armed conflict, and in particular the principles and rules of humanitarian law.” However, the Court added that an exception might exist “in an extreme circumstance of self-defense” where the survival of a nation was threatened.

(Top) The International Court of Justice delivers its landmark ruling. Photograph courtesy of Tokyo Federation of A-Bomb Sufferers Organizations.

(Bottom) A delegation of the World Court Project visited the International Court of Justice to listen to the statements of the Mayors of Hiroshima and Nagasaki. In front of the Peace Palace which houses the International Court of Justice in The Hague, Netherlands. October 1995. Photograph courtesy of Tokyo Federation of A-Bomb Sufferers Organizations.

40. Disarmament Diplomacy

The Hague Convention of 1899 created the first treaty limiting the conduct of international warfare. To mark the 100th anniversary of this landmark event, nearly 10,000 citizens and 790 organizations from about 100 countries participated in the Hague Appeal for Peace conference held in May 1999.

The Japanese delegation exhibited photo panels and presented testimonials from 78 hibakusha during a Japan Day program.

One year later, in New York City at the United Nations Millennium Forum, the UN participated with nongovernmental, nonprofit citizens’ organizations to create a Declaration and Agenda of Action Plans, which included a statement on peace, security, and disarmament.

(Top) At the send-off ceremony before the hibakusha join a march to NATO Headquarters in Brussels, Belgium, at an ancillary event of the Hague Appeal for Peace, May 1999.

(Left) The United Nations Millennium Forum at United Nations Headquarters, May 22 through 26, 2000.

(Right) Hague Appeal for Peace, conference ceremony, May 1999. Photograph courtesy of Nakashima Foundation for Peace.

41. Humanitarian Impact of Nuclear Weapons – From a Joint Statement to International Conferences

In May 2012, sixteen nations proposed a joint statement in the NPT Preparatory Committee for the 2015 Review Conference: “It is of the utmost importance that these weapons never be used again, under any circumstances. The only way to guarantee this is the total, irreversible and verifiable elimination of nuclear weapons.”

This joint statement was submitted to the UN General Assembly, and the number of approving nations increased at every meeting.

Meanwhile, international conferences on the inhumane consequences of nuclear weapons still continue actively. The first was in Oslo, Norway, in March 2013, with 127 nations. The next was in Nayarit, Mexico, in February 2014, with 146 nations; then in December 2014, in Vienna, Austria, with 158 nations.

In November 2017, when the international conference for nuclear disarmament was held at the Vatican for the first time, the hibakusha representative was invited to make a speech at the conference.

Regarding nuclear weapons, Pope Francis stated: “The threat of their use, as well as their very possession, is to be firmly condemned.”

(Top) The Conference in Oslo. Photograph courtesy of Peace Boat.

(Left) After delivering a speech, Ms. Masako Wada, Nagasaki survivor, received warm applause from participants at the conference at the Vatican, November 2017.

(Right) Hibakusha speaking in the “Hibakusha Session” in the opening part of the second “Humanitarian Impact” conference held in Nayarit, Mexico. February 13, 2014.

Photograph courtesy of Nihon Hidankyo.

42. Nuclear-Weapon-Free Zones in the World

Demarcation of nuclear -weapon-free zones, nuclear -weapon-free status and nuclear-weapon-free geographical region

① Treaty of Tlatelolco

The 1967 Treaty for the Prohibition of Nuclear Weapons in Latin America and the Caribbean

② Treaty of Rarotonga

The 1985 South Pacific Nuclear-Free Zone Treaty

③ Treaty of Bangkok

The 1995 Treaty on the South-East Asia Nuclear-Weapon-Free Zone

④ Treaty of Pelindaba

The 1996 African Nuclear Weapon-Free Zone Treaty

⑤ Central Asia Nuclear-Weapon-Free Zone Treaty

The 2006 Treaty on a Nuclear-Weapon-Free Zone in Central Asia

⑥ Mongolia's Nuclear-Weapon-Free Zone Status

In 1992, Mongolia declared its nuclear weapon-free status, which is internationally recognized and prohibits, inter alia, the acquisition, possession, placement, testing and use of nuclear weapons on its territory.

⑦ Antarctic Treaty

The 1959 Antarctic Treaty, inter alia, prohibits any measures of military nature on the continent of Antarctica, including any testing of nuclear weapons.

⑧ Outer Space Treaty

The 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space including the Moon and Other Celestial Bodies, inter alia, prohibits placing nuclear weapons in orbit around the Earth, installing or testing these weapons on the Moon and other celestial bodies as well as stationing these weapons in outer space in any other manner.

⑨ Sea-Bed Treaty

The 1971 Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Sea-Bed and the Ocean Floor and in the Subsoil Thereof, inter alia, prohibits the emplacement of nuclear weapons on the bottom of the ocean and in the subsoil thereof.

43 Hibakusha International Signature Campaign

In April 2016, the hibakusha of Hiroshima and Nagasaki launched an international campaign appealing for the elimination of nuclear weapons. In total 13,702,345 signatures collected by December 31, 2020, were submitted to Mr, António Guterres, Secretary General of the United Nations.

(Left) Presentation of the 9,415,024 signatures, May 1, 2019 at the third PrepCom of the 2020 NPT Review Conference. From left to right: Izumi Nakamitsu, UN High Representative for Disarmament Affairs, Ambassador Syed, Sueich Kido (survivor from Nagasaki) and Jiro Hamasumi (survivor from Hiroshima). Photograph by Erico Platt.

(Top left) Signature drive at Shibuya Station, Tokyo, April 27, 2016.

(Top right) Mitsuhiro Hayashida, in his twenties, contributes as the signature campaign leader.

(Bottom) Street campaign for signatures.

44. Treaty on the Prohibition of Nuclear Weapons

At the United Nations in May 2015, the NPT Review Conference failed to produce a final outcome document. However, a humanitarian disarmament movement led to several conferences sponsored by the States. This process was further supported by a General Assembly resolution and a working group devoted to this topic.

These extensive discussions culminated in 2017 with the Treaty on the Prohibition of Nuclear Weapons, adopted with the approval of 122 nations.

(Top) Hibakusha representatives present the collected signatures to the President of the United Nations Conference to negotiate a legally binding instrument to prohibit nuclear weapons, leading toward their total elimination. June 2017.

(Bottom) Ms. Setsuko Thurlow (atomic-bombed at the age of 13) and Mr. Toshiki Fujimori (atomic- bombed at the age of 1) delighted at the adoption of the Treaty.

45 High School Students for Peace

The High School Students Peace Ambassadors have journeyed from Japan to the UN Office in Geneva every year since 1998 to appeal for the abolition of nuclear weapons and the achievement of world peace. In 2001, they launched the 10,000 High School Students Signature Campaign “to eliminate all nuclear weapons and make a peaceful world.” This campaign originated in Nagasaki and has spread to many places in Japan and overseas.

Students at the Motomachi High School of Hiroshima City have pursued art projects since 2007 to convey the sufferings of hibakusha. The students base their work on testimonials and experiences described by the hibakusha.

(Top) High school students collect signatures for the anti-nuclear campaign in the downtown area of Morioka-City, Iwate Prefecture. Photograph courtesy of the Organizing Committee of High School Student Peace Envoys.

(Bottom) By 2019, a total of 112 students had painted 137 pictures inspired by the testimonials of the hibakusha. For over six months through the creation of art work, these students vicariously experience for themselves what the hibakusha have gone through. Photograph courtesy of Hiroshima City Motomachi High School.

46. College Student Projects

Students at Musashi University produced a 42-minute film entitled “Voices that Moved

the World” based partly on information about the hibakusha provided by Nihon Hidankyo. One of the students in the project said, “I am moved by the people who kept sitting [demonstrating] in front of the Ministry of Health and keep struggling for justice. I am overwhelmed and awed by their persistent actions and strong will to correct injustice.”

At Showa Women’s University, students pursued a project to convey information about World War II to future generations. They referred to 6,000 pieces of Nihon Hidankyo’s archived materials and interviewed the hibakusha in person. One student observed that the “hibakusha’s anger at the atom bomb may have been personal at first. Through the movement of Nihon Hidankyo their feelings have converged and united.”

(Top) Students of Showa Women’s University listen to the testimony by Mr. Sueichi Kido, a Nagasaki survivor, March 2019.

(Bottom left) Mr. Jiro Hamasumi (center), a Hiroshima survivor, and students at the meeting, “Connecting the Survivors’ Voices to the Future,” Musashi University, December 15th, 2018.

(Bottom right) Ms. Yoshie Kurihara, a former staff member of Hidankyo, explains activities of the hibakusha to a student of Musashi University, October 2018.

47. Global Youth Activities

After the 2010 NPT Review Conference, campaigns for nuclear abolition became more active, particularly in Europe.

(Top left) Young people who join the ICAN (International Campaign to Abolish Nuclear Weapons) Civil Society Forum held prior to the international conference, “Humanitarian Impact of Nuclear Weapons,” together with a hibakusha representative, Mr. Tanaka, in Oslo, Norway, March 2013. Photograph courtesy of Peace Boat.

(Top right) Students listen to the experiences of Mr. Terumi Tanaka, a Nagasaki survivor, in the University of Vienna, May 2012.

(Bottom left) Mr. Toshiki Fujimori, a Hiroshima survivor, speaks to young people at a camp on Utoya Island, Norway, August 2015. Photograph by Asaki Abumi.

(Bottom right) Floating lanterns for peace in Oslo, Norway, 2015. Photograph by Asaki Abumi.

48. Message from Hibakusha

The average age of the hibakusha now exceeds 80. It is our strong desire to achieve a nuclear weapon-free world in our lifetime, so that successive generations will not see

this hell on earth ever again. You, your families and relatives, or any other people should never become hibakusha. We believe that your signatures on this appeal will add to the voices of hundreds of millions of people around the world and influence international politics. Our leaders will work to save the future of our blue planet and all life on it. We earnestly appeal to you to sign this petition.

From the Call for the Appeal of the Hibakusha for the Elimination of Nuclear Weapons, April 2016.

Drawing by Chihiro Iwasaki